Supporting the University of Arizona Citrus Variety Collection 2017¹

Glenn C. Wright²
²School of Plant Sciences, University of Arizona, Yuma Agriculture Center, Yuma, AZ

Introduction

The 8-acre citrus variety collection at the Yuma Agriculture Center is the most comprehensive collection of citrus within Arizona, containing about 110 selections. The collection was propagated in 1993 and is found in Block 17.

The collection has value because it serves as a resource for research, teaching and extension. From 1993 until 2008, data was taken from the lemon selections within the collection. We use fruit, leaves and flowers from the collection to teach students of the Citrus and Date palm production course that I teach through UA-Yuma. A part of one laboratory session takes place within the collection. We also use the collection to teach Master Gardeners, and the we lead tours through the collection for Master Gardeners and other interested parties. We use fruit from the collection for displays and tasting for community events.

Now, the trees are aging, and we are in the process of re-propagating the collection into a 3-acre parcel in Block 18 at the Center, but the task is not yet finished. Some of those new trees are planted in the new blocks while others are growing in a field nursery and others have yet to be budded. About one acre of the new collection is in the ground. Few of the new trees have fruit.

The University has borne the cost of maintaining the collection for the past 23 years, but those costs can no longer be absorbed. While the old collection <u>is</u> being irrigated, the pruning, fertilization and orchard floor management operations have been reduced or eliminated. There had been discussion of removing the old collection, before the new collection is bearing fruit, if no revenue can be found. If the old trees were to be removed, there would be no fruit for research, teaching and extension for some of the selections for a few years. Also, if some of the old trees are removed before they are successfully re-propagated, there is a risk that we will lose that variety altogether, and we will have to acquire budwood from the California Citrus Protection Program (CCPP).

We asked the ACRC to support 50% of the cost of maintaining 9 total acres of citrus for 2017 (8 acres of the old collection, plus one acre of the new). Because the ACRC was able to provide funding, the University of Arizona agreed to provide the additional 50%. As a result, the ACRC helped to ensure a reliable supply of fruit for research, teaching and extension during 2017 while the new collection was propagated, growing and bearing fruit.

Materials and Methods

With the funding, The University of Arizona maintained the two collections during 2017. Fruit from both collections was used for demonstration and tasting for Master Gardener and community events in Yuma, Maricopa, Pinal, Pima and Mohave counties. The fruit was also used for tasting and demonstration in PLS403 "Citrus and Date Palm Production" – a class taught during the Spring Semester 2017/18 at UA-Yuma.

A map of the new variety collection, comprising 71 varieties, in Block 18 can be found in Figure 1.

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							Revised:	5/4/2018	
	2014			Block 18					N→
Row → Tree No. ↓	1	2	3	4	5	6	7	8	9
1		Valentine Pummelo Hybrid	Valentine Pummelo Hybrid	Akçay Sekeri Crescent Orange	Akçay Sekeri Crescent Orange			Corpaci Lemon	Corpaci Iemon
2		Valentine Pummelo Hybrid	Valentine Pummelo Hybrid	Bahianinha SRA Navel Orange	Bahianinha SRA Navel Orange			Lapithiotiki Lemon	Lapithiotiki Lemon
3		Oklawaha Sour Orange	Oklawaha Sour Orange	Bahianinha Araras Navel Orange	Bahianinha Araras Navel Orange	Cook Eureka Lemon		Genoa Lemon	Genoa Lemon
4		Oro Blanco	Oro Blanco	Smith Red Orange	Smith Red Orange	Limonero Fino 95 Lemon	Limonero Fino 95 Lemon	Corona Foothills Lemon	Corona Foothills Lemon
5		Red Blush RCES #3 Grapefruit	Red Blush RCES #3 Grapefruit	Okitsu Wase Satsuma Mandarin	Okitsu Wase Satsuma Mandarin	Cascade Eureka Lemon		Femminello Sta. Teresa Lemon	Femminello Sta. Teresa Lemon
6		Red Blush RCES #3 Grapefruit	Red Blush RCES #3 Grapefruit	Aoshima Satsuma Mandarin	Aoshima Satsuma Mandarin	Messina Lemon		Limonero Fino 49 Lemon	Limonero Fino 49 Lemon
7		Dwarf White Grapefruit	Dwarf White Grapefruit	USDA 15-150 Mandarin	USDA 15- 150 Mandarin	Limoneira 8A Lisbon Lemon		Limonero Fino 95 Lemon	Limonero Fino 95 Lemon
8		Trovita Sweet Orange	Trovita Sweet Orange	Miyagawa Satsuma Mandarin	Miyagawa Satsuma Mandarin	Variegated Pink Eureka Lemon		Villafranca Lemon	Villafranca Lemon
9		Rhode Red Valencia Orange	Rhode Red Valencia Orange	Nichigan Ichi Go Satsuma	Nichigan Ichi Go Satsuma	Microcitrus Australasica Finger Lime	Microcitrus Australasica Finger Lime	Monroe Lisbon	Monroe Lisbon
10		Rio Red Grapefruit	Rio Red Grapefruit	Hansen Mandarin	Hansen Mandarin	Butwal Li metta		Improved Meyer Lemon	Improved Meyer Lemon
11		Koethen Sweet Orange	Koethen Sweet Orange	Primosole Mandarin	Primosole Mandarin	Palestine Lime	Palestine Lime	Dr. Strong Lisbon	Dr. Strong Lisbon
12		Hamlin Sweet Orange	Hamlin Sweet Orange	Imperial Mandarin	Imperial Mandarin	Persian Lime		Kaffir Lime (Citrus hystrix)	Kaffir Lime (Citrus hystrix)
13		Minneola Tangelo	Minneola Tangelo	SRA 92 Clementine Mandarin	SRA 92 Clementine Mandarin	Mexican Lime- Thornless		Punjab Lemon	Punjab Lemon
14		Olinda Valencia Orange	Olinda Valencia Orange	Xie Shan Satsuma Mandarin	Xie Shan Satsuma Mandarin	Mexican Lime- Thornless	Mexican Lime- Thornless	Primofiori Lemon	Primofiori Lemon
15		Salustiana Sweet Orange	Salustiana Sweet Orange	Clemenules Clementine Mandarin	Clemenules Clementine Mandarin	Bearss Lime	Bearss Lime	Yen Ben Lisbon Lemon	Yen Ben Lisbon Lemon
16		Trovita Sweet Orange	Trovita Sweet Orange	Clemenules Clementine Mandarin	Clemenules Clementine Mandarin	Femminello Lemon	Femminello Lemon	Walker Lisbon Lemon	Walker Lisbon Lemon
17		California Rojo Orange	California Rojo Orange	Clemenules Clementine Mandarin	Clemenules Clementine Mandarin	Ponderosa Lemon	Ponderosa Lemon	Interdonato Lemon	Interdonato Lemon
18		Ponkan Mandarin	Ponkan Mandarin			Desert Lisbon Lemon	Desert Lisbon Lemon	Seedless Lemon	Seedless Lemon
19		Seedless Kishu Mandarin	Seedless Kishu Mandarin	Etrog Citron	Etrog Citron	Arancino Lemon	Arancino Lemon	Berna Lemon	Berna Lemon
				Rootstock:					
		nges and m refruits and		Carrizo Volkameriana					

Figure 1. Plot Plan of the New Citrus Variety Collection in Blocks 18 and 25 at the Yuma Mesa Agriculture Center

Results and Plans for the Future

Currently, we expect to keep Block 17 (the old collection) through the middle of 2018. There are 50 additional varieties at the Yuma Agriculture Center, some of which are in Block 17, which must be propagated in anticipation of planting in Block 18. Budding will occur in late Spring 2018. Once we are assured that those new trees have survived, then the trees in Block 17 will be destroyed.